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| EXAMINER |
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FORTUNA, JOSE A

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| ART UNIT | PAPER NUMBER |
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1731

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/728,077 | Applicant(s) PIANTA ET AL. | |
| | Examiner José A. Fortuna | Art Unit 1731 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/03; 3/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in paragraph [0034] applicants refer to a paste, e.g., virgin paste, recycle paste, etc.; the meaning of those terms is unclear. For the purpose of this office action the term paste has been interpreted as “pulp” i.e., virgin pulp, recycled pulp, etc.

Appropriate correction/clarification is required.

Claim Objections

2. Claim 25 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The independent claim, claim 1, limits the filler to be of inorganic origin; however, claim 25 now indicates that the filler could be also organic, which contradicts its independent claim. Note that the use of the Markush group in the filler selection limits the filler to be chosen, i.e., within the compounds encompassed by the Markush group.

3. Claims 1, 36 and 39 are objected to because of the following informalities: the claim contain several grammatical errors that should be corrected, missing pronouns, (providing fibre, “providing a fibre”), noun and verb agreement, “which is being moved” referring to the two layers of fibers in claim 1, In claim 36, “on then fibre” should be “on the fibre.” In claim 39, “types” should be “type.”

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite for the following reasons:

- The phrase “at least two fibre meshes” lacks of antecedent basis, i.e., it is unclear how at least two fibre meshes are obtained if the fibre material is deposited in “at least one section”? The only way to get at least two fiber meshes is if the fiber material is deposited in at least two sections.
- The phrase “at at least one layer forming section.” See above, i.e., how could two fibre meshes be formed with at least on layer forming section? Note that the review of the specification reveals that “layer” has been used to define what it known in the art as “ply/plies,” i.e., joining of already formed webs.
- The phrase “which is being moved” is vague and indefinite since it implies that the “filler is being moved” instead of the “fiber meshes.” The use of the singular form of the verb “to be” seems to indicate that it is the filler that is moving, by the verb agreement.

Claim 2 is vague and indefinite as to the meaning of a “variable position,” i.e., does the application means move or they are a plurality of fixed application means, situated along the machine direction in the forming section.

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In claim 2, the phrase “the forming section” lacks of sufficient antecedent basis.

In claim 3, the phrase “the fillers” lacks of antecedent basis. Note that claim 1 refers to “filler,” singular.

Claims 4 and 5 are vague and indefinite since basis for the distance has not been recited, i.e., from 1 to 70 cm from what to what? Does the distance refer to the distance between the web and the nozzles?

Claim 17 is vague and indefinite since the claim is not understood, i.e., the joining of the fibers with the pulp product?

Claims 19-20 are vague and indefinite as to what is “a return”?

In claims 36-37 the phrase “of dry extract” lacks of antecedent basis. Also the meaning of the phrase is unclear, what is been extracted? If applicants means on a dry basis then it should be corrected.

Claim 40 is vague and indefinite as to the meaning in the context of the word “paste.” See also the objection to the specification, above.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 6-8, 10-13, 17-18, 22-25, and 32-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Coleman, US Patent No. 4,008,121.

Regarding claims 1-3, 6-8, 10-13, 17-18 and 41-42, Coleman teaches a method of coating pigment particles on paper plies, in which the particles are coated/spread between a pair of plies. The pigments are preferably clay particles; same as claimed and they are used between 5 to 60 grams/m² or gsm, see abstract. Figure 1 shows that the spreading means are disposed in variable position with respect to the wet end, see nozzles 23-25. Coleman teaches that the preferred pigments particles are, clay and titanium dioxide and that it is applied to the web in form of a suspension, which can contain a binder, preferably a starch, see column 1, lines 38-44. Coleman also teaches that the pigment can be incorporated into the web with or without the use of a binder and that spraying technique could be used, see column 2, lines 19-27. Regarding claims 22-25, the penetration of the pigment would be inherent to Coleman's invention, since this a property of the wet end of the papermaking system, i.e., the dewatering of a web in the wet end of a papermaking machine decreases downstream, and therefore, the closest to the headbox an additive is applied, the most it penetrates through the forming web. Note that the papermaking machine, at the wet end, includes vacuums underneath the forming wire. Coleman teaches also that the web is formed into a paper or paperboard; see abstract and column 1, lines 22-27 for example. As to the different type of board machines of claim 24, Coleman shows the use of Fourdrinier machines in figure 1 and column 4, line 64 through column 5, line 12. With regard to claims 32-40, Coleman teaches the suspension of the filler/pigment and starch having overlapping amount of water, column 4, lines 32-49; also in the same lines Coleman teaches the speed of the web which falls within the claimed range.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 4-5, 9, 14-16, 19-21 and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coleman, cited above.

Coleman has been discussed above. Coleman is silent with regard to the specifics of the above claims, i.e., the distance of the introduction of the fillers, nor the angle of

inclination of the spray nozzles, nor the specifics of the fillers, e.g., types, such as calcium carbonate and calcium sulfate, size distribution, etc. However, the claimed fillers including the specific of them, e.g., size distributions, and different hydrates of the same compound, (Calcium Sulfate), are very well known in the art, and the use of such filler(s) would have been obvious to one of ordinary skill in the art¹. As to the use of sprays and the specific of the position of the spray with respect to web or the headbox, this is considered to be within the levels of ordinary skill in the art as an obvious optimization of a result effective variable, absent a showing of unexpected results. It has been held that “[T]he discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Antoine*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); *In re Aller*, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1995).

12. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicholson, US Patent No. 2,286,924.

Nicholson teaches a multiply/multilayer paper or paperboard in which additives such as sizing, pigments and fillers, are added in between the layers, see column 1, lines 34-55 and column 2, lines 11-16. Nicholson teaches that a Fourdrinier machine could be used and that the additives, including fillers, are added before the bonding of the plies and the same type of pulps, i.e., Virgin Kraft pulps can be used as the layers. Even though Nicholson is silent with regard to the specific of the fillers additives, but the claimed fillers including the specific of them, e.g., size distributions, and different hydrates of the same compound, (Calcium Sulfate), are very well known in the art, and the use of such

¹ The examiner takes official notice of this/these facts and would present proof if and/or when required.

filler(s) would have been obvious to one of ordinary skill in the art². As to the use of sprays and the specific of the position of the spray with respect to web or the headbox, this is considered to be within the levels of ordinary skill in the art as an obvious optimization of a result effective variable, absent a showing of unexpected results. It has been held that “[T]he discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Antoine*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); *In re Aller*, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1995).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of “Method of manufacturing a multi-layered pulp product.”

The documents cited in the EPO were considered, but they do not teach nor suggest the claimed invention:

- WO 99/36618 A, does not teach nor suggest the addition of fillers between the layers. Teaches the addition of moisture barrier composition without telling what it contains, only that it does not contain wax and polymeric water repellents and since the fillers are not usually water repellent agents then it could not be assumed that the composition could or has any fillers. Substituting fillers for the suggested moisture barrier would be against the teaching of the reference.
- DE 19823740 A, does not teach a multiply product, but the coating of the surface of a web using spraying nozzles.

² The examiner takes official notice of this/these facts and would present proof if and/or when required.

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- EP 373276 A, relevant only to the use of variable spray nozzles. Does not teach the addition of fillers in between the layers of a multi-layer product.
- WO 9600816 A, does not teach a multiply product, but the coating of the surface of a web using spraying nozzles. This reference is discussed in the current application.
- DE 1546280 A, does not teach a multiply product, but the coating of the surface of a web using spraying nozzles. Relevant only to the use of variable spray nozzles. Does not teach the addition of fillers in between the layers of a multi-layer product.
- EP 692456 A1 relevant to the use of calcium sulfate as a filler in papermaking.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


José A Fortuna
Primary Examiner
Art Unit 1731

JAF